



SUSTAINABLE URBAN PLANNING

Half of the world's population lives in cities. In twenty years, there will be 5 billion urban dwellers. With inefficient transport systems and poorly designed developments, many cities consume enormous quantities of fossil fuels and emit high levels of greenhouse gases.

Intelligent planning and leadership based on sophisticated spatial awareness of sustainable development planning can help cities meet the impending crises of over-crowding; dormitory suburbs; unaffordable living; etc.

This CRCSI program will research, trial and demonstrate a new approach to achieving sustainable urban development based on new spatial information technologies and tools and explore new theories such as agglomeration economies.

It will devise spatial sustainability indicators, metrics, decision rules models and standards that will create a fact-based approach, driven by sustainability outcomes, to support decision making in urban development. The program will also create tools that transform the ability of planners and regulators to communicate across the tiers of government, to one another, and with their key client bases.



Spatial Understanding of Australian Urban Economics

This work will analyse how Australian urban agglomeration economies contribute to productivity. The way that centres provide productivity gains is now well established globally and benefit-cost ratios on all urban infrastructure projects are meant to identify the way that they contribute to these productivity gains. Up to now no agglomeration elasticities have been calculated on Australian cities.

A Shared Urban Spatial Information System (SUSIS)

The use of Building Information Management systems linked to GIS is now a mainstream process and is contributing to productivity improvements in the built environment professions. Our project will extend this into urban planning by showing how groups of buildings in areas can be examined in a similar spatial information system. The value of having such a tool is that all the data on an area can be combined to allow developers and agencies to assess the best areas for development and the best way of doing that urban development. SUSIS would constitute a collaborative initiative of CRCSI with its key government partners at state and federal (and in time municipal) level. It will improve the availability/access of information needed to design, implement and monitor metropolitan plans as they relate to urban regeneration, intensification, environmental sustainability, liveability and competitiveness.

Spatial Tools for Urban Regeneration: Greening the Greyfields

The most obvious result from the economic analysis is that Australian cities need to be regenerated in the declining middle suburbs. This is where many planners now see the important areas that need to have new centres and where most of the coming population could be directed.

The models for regenerating brownfields (inner areas, often old industrial/warehousing areas like Docklands) and developing greenfields (on the urban fringe) are well known. But the middle suburbs, where the building stock is ready for redevelopment and the infrastructure is poor, are mostly privately owned and require new approaches to redevelop. There are many spatially based research questions and technologies such as visualisation to be pursued.

The results from the Program will provide Australian cities with the tools that they need to enable the next phase of urban development to be more cost effective, less carbon intensive, more equitable, more attractive as a place to live and work, and more productive.



Further information

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